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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,069	12/15/2003	Seong-Min Choe	51876P440	5251

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EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/737,069

Applicant(s)

CHOE, SEONG-MIN

Examiner

Daniel D. Chang

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) 12-14 is/are rejected.
- 7) ☒ Claim(s) 15-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 6,429,679 B1, Kim hereinafter).

Regarding claim 12, Kim discloses, in Fig. 20, an on-DRAM termination resistance control method for adjusting resistance within a semiconductor memory device (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)) that performs an on-DRAM termination operation, comprising the steps of:

(a) adjusting resistances of a first inner resistor (3) and a second inner resistor (4) based on an external reference resistor (RQ);

(b) adjusting a resistance of a third inner resistor (8) based on the second inner resistor (via 6, 165, 166, 167 and the lines that connects to 8) that is adjusted at the step (a); and

(c) controlling the steps (a) and (b) for a predetermined commanded adjustment time (col. 7; lines 65+) by generating a control signal (output of Counter 163) to start an operation for the predetermined commanded adjustment time depending on an external resistance adjust command (5).

Art Unit: 2819

Regarding claim 13, Kim discloses, in Fig. 20, that wherein the step (a) includes the steps of:

(d) comparing (by 161) the voltage between both ends of the external reference resistor coupled to the first inner resistor with a reference voltage (V_{ref}); and

(e) adjusting the resistances of the first and the second inner resistors depending on the comparison result (output of 161) of the step (d) (see the lines from 163 to 3 and 240 to 4).

Regarding claim 14, Kim discloses, in Fig. 20, that wherein the step (b) includes steps of:

(f) comparing (by 165) the voltage between both ends of the third inner resistor coupled to the second inner resistor with a reference voltage (V_{ref}); and

(g) adjusting the resistance of the third inner resistor depending on the comparison result (output of 165) of the step (f) (see the line connecting from 167 to 8).

Allowable Subject Matter

Claims 1-11 are allowable over the prior art.

Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the best prior art of record, Kim, taken alone or in combination of other references, does not teach or fairly suggest a method or an on-DRAM termination resistance control circuit comprising, among other things, that wherein the resistance adjustment control means includes a ring oscillator controlling means for outputting a control signal to start an operation and finish the

Art Unit: 2819

operation for the predetermined commanded adjustment time depending on an external resistance adjust command (claim 1); and outputting a pulse at every cycle while oscillating based on the control signal (claim 15), as set forth in the claims.

Response to Arguments

Applicant's arguments filed September 29, 2006 have been fully considered but they are not persuasive.

Applicant states, on pages 7-8, that "it is asserted in the Office Action that Kim does not teach or fairly suggest a method where controlling adjustment of resistors for a predetermined commanded adjustment time by a control signal to start an operation for the predetermined commanded adjustment time depending on an external resistance adjust command." However, in the Office Action mailed on July 26, 2006, Examiner stated that "Kim, taken alone or in combination of other references, does not teach or fairly suggest a method ... comprising, among other things, ... outputting a pulse at every cycle while oscillating based on the control signal (claim 15)". Therefore, amended claim 12 that includes non-allowable limitation is still rejected as discussed above.

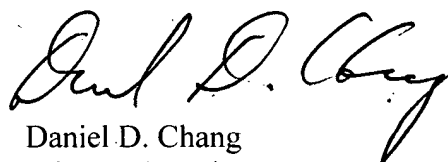
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (571) 272-1801. The examiner can normally be reached on Monday through Friday.

Art Unit: 2819

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel D. Chang
Primary Examiner
Art Unit 2819

DANIEL CHANG
PRIMARY EXAMINER